

J. Davis.
Carding Mach.

N^o 421.
31,425.

Patented Feb. 12, 1861.

Fig. 2.

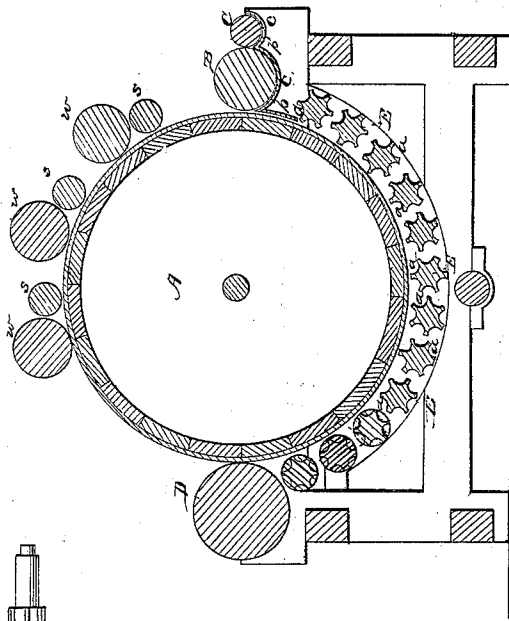
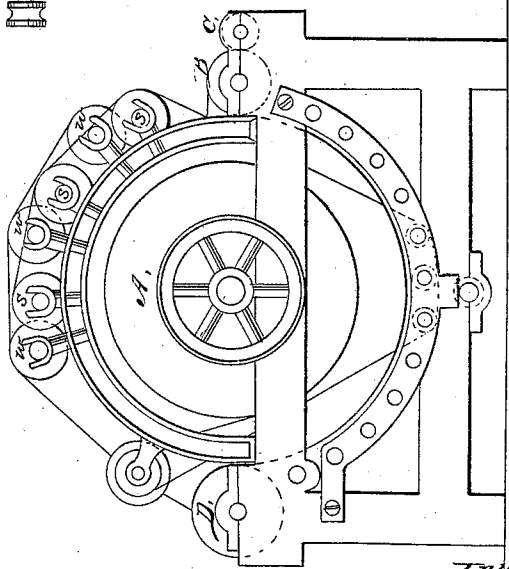


Fig. 3.



Fig. 1.



Witnesses.
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JOSEPH DAVIS, OF EAST WILTON, NEW HAMPSHIRE, ASSIGNOR TO HIMSELF,
AND JESSE A. LOCKE, OF WATERTOWN, MASSACHUSETTS.

IMPROVEMENT IN CARDING-MACHINES.

Specification forming part of Letters Patent No. 31,425, dated February 12, 1861.

To all whom it may concern:

Be it known that I, JOSEPH DAVIS, of East Wilton, of the county of Hillsborough and State of New Hampshire, have invented a new and useful Improvement in the Carding-Machine; and I do hereby declare the said invention to be fully described in the following specification and illustrated in the accompanying drawings, of which—

Figure 1 is a side elevation, and Fig. 2 a longitudinal section, of a carding-machine provided with my invention. Fig. 3 is a side view of one of its fluted rollers, to be hereinafter explained.

The nature of the said invention consists in an arrangement and application of fluted rollers relatively to the main card-cylinder.

In the drawings, A is the main card-cylinder, having at its rear two smaller ones—viz., the tumbler B and the lick-in C—while at its front it is furnished with a doffer or doffing-cylinder D. A series of workers *w w w* and strippers *s s s* are arranged over its upper curved surface in the usual manner.

Extending underneath the lower half of the main card-cylinder is a series of rollers E E E, &c., which are disposed parallel to one another and quite near together, as represented. A series of smooth-surfaced rollers, in combination with and arranged under the main card-cylinder and its series of workers and strippers, constituted the subject of a carding-machine improvement for which Letters Patent of the United States numbered 18,423, were granted to me on the 13th day of October, A. D. 1857.

Instead of constructing each of the rollers which constitute, under the main card-cylinder, a "rolling-grid," I now make it with a fluted or channeled surface, the flutes being arranged longitudinally of the roller, or so as to extend from end to end of it. These flutes are represented at *a a a* in the drawings. Furthermore, I arrange between the main card-cylinder A and the tumbler B and also between the latter and the lick-in C an estopping bar or edge *b* or *b'*, to which I connect a trough *c*, to extend rearward under each roller. In constructing the same a single sheet of metal may be used, which may be bent in the form shown in section in the drawings and may also curve down a short

distance along the curved surface of the main card-cylinder. The estopping-edge should extend as closely up into the bite of the cylinders as possible for them to run without contact with it, the object of such edge being to arrest or stop from falling from between the cylinders the loose fibers of material to be carded and present them to the cylinder which is to receive them. The rear cylinder of either two next adjacent cylinders which may be working together, I term the "delivering-cylinder," while that in front of it may be said to be the "receiving-cylinder," and this for the reason that one delivers the fibrous material to the other and the latter receives it from the former. The trough extending under the rearmost or delivering cylinder causes the loose fibers which may not be seized by the receiving-cylinder to pass down under the delivering-cylinder and to be again laid by it on the estopping-edge in such a manner as to be easily seized and drawn away by the receiving-cylinder. The curved surfaces of such rollers are to be provided in the usual manner with card clothing or teeth.

In respect to the application of flutes to the rollers under the main card-cylinder operating with workers and strippers, as described, I would remark that I lay no claim to a fluted roller by itself. As ordinarily employed it does not perform the functions appertaining to its flutes when used under a main card-cylinder, as hereinbefore described.

In my application of the fluted rollers to operate with the main card-cylinder each flute constitutes a channel over which the fibrous material which may be laid on it becomes so "bridged" or stretched as not only to leave below it a space for the reception of the dirt that may be discharged from such material, but so present the material to the teeth of the main cylinder as to enable them to more readily enter and seize it than would be the case were it brought to them by a smooth-surfaced roller. The dirt or extraneous matter by being received into the channel or flute not only becomes so separated or isolated from the main card-cylinder as to prevent the latter from seizing it, but is carried around subsequently by the rotation of the roller and discharged from it. Thus it will be seen

that new and important results follow from the above-stated application of fluted rollers underneath the main card-cylinder of a carding-engine, experience having demonstrated such application to be one of great value or utility.

I do not herein claim the combination and arrangement of smooth-surfaced rollers with the main card-cylinder and its workers, or workers and strippers, so as to operate therewith in manner and for the purpose as described in my Patent No. 18,423.

I claim as an improvement thereon—
The above-described application and arrangement of fluted rollers under the main card-cylinder and to operate therewith substantially in manner as specified.

JOSEPH DAVIS.

Witnesses:

W. G. LEVI,
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